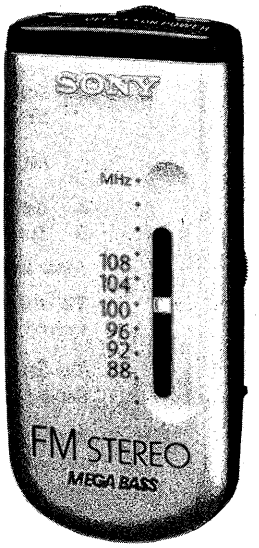
SRF-S50

SERVICE MANUAL



AEP Model
UK Model
E Model
Australian Model

SPECIFICATIONS

Frequency range	87.6 – 108MHz
Intermediate frequency	FM : 1st : 28.4MHz, 2nd : 150kHz
Power output	4.5mW +4.5mW (at 10% harmonic distortion)
Output	Headphones jack (stereo minijack) load impedance 16 ohms.
Power requirements	1.5V DC, one R03 (size AAA) battery.
Battery life	16 hours with Sony UM-4 (NU) battery.
Dimensions	Approx. 34.5×75×14.2mm (w/h/d)($1\frac{3}{8}\times3\times\frac{9}{16}$ inches) not incl. projecting parts and controls.
Mass	Approx. 32g (1.1 oz) incl. a battery.
Accessories supplied	Stereo headphones (1)

Design and specifications subject to change without notice.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

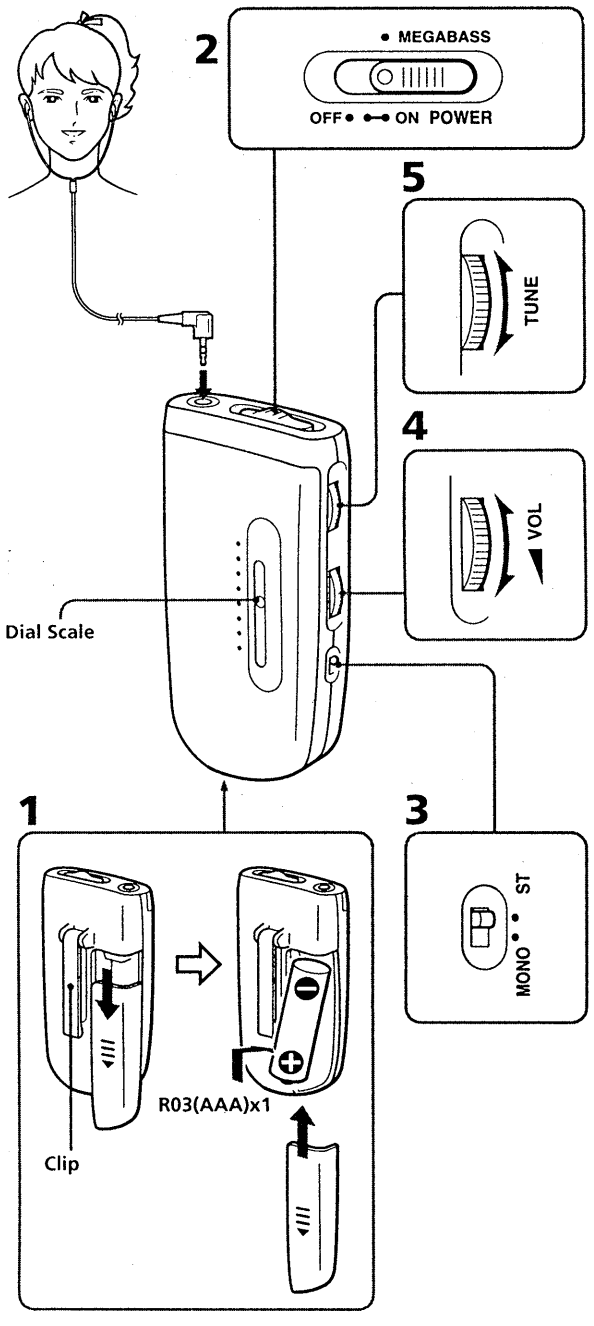
使用時は添付資料も参照のこと
Refer to the additional documents.

FM STEREO RADIO

SONY®

This section is extracted from instruction manual.

Operation



Operation

1 **Insert a battery.**
2 **Set the POWER switch to ON to turn on the radio.**
3 **Select the FM mode.**
ST (stereo): for FM stereo reception, normally set the ST/MONO switch to ST.
MONO (monaural) : when the FM reception is poor, set it to MONO.
4 **Adjust the volume.**
5 **Tune in the desire station.**

After listening, set the POWER switch to OFF.

To improve the reception

Extend the headphones cord fully. If functions as an FM antenna.

To Enjoy Powerful Bass Sound

Set the MEGA BASS selector to ON to emphasize bass sound.

Notes on a Battery

When the sound gets distorted or unstable, replace the battery with new one. For battery life, see "Specifications".

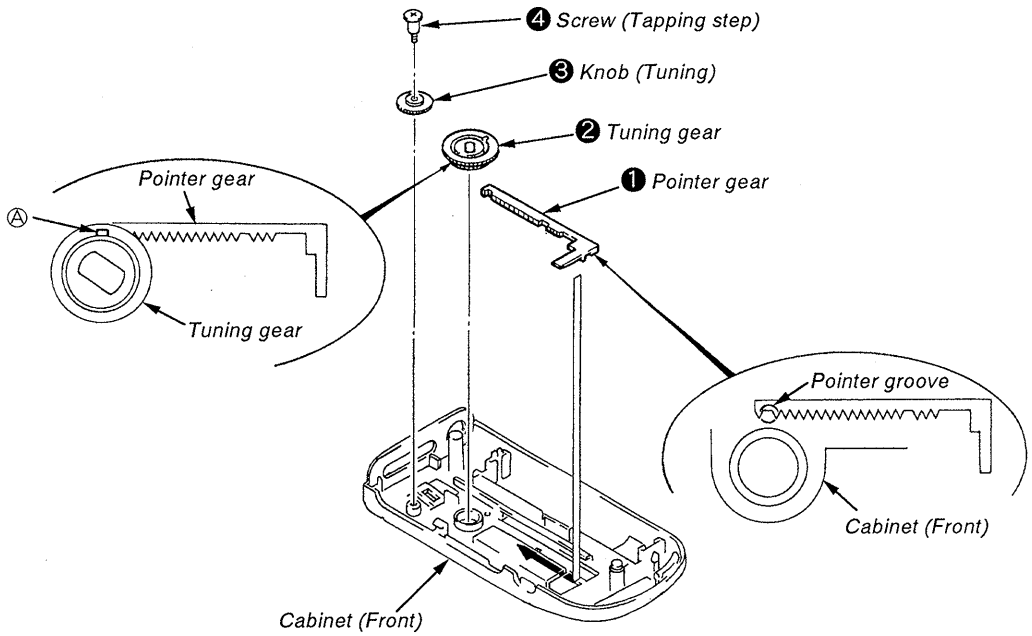
To avoid damage from battery leakage and corrosion

Remove the battery when you do not use the unit for a long time.

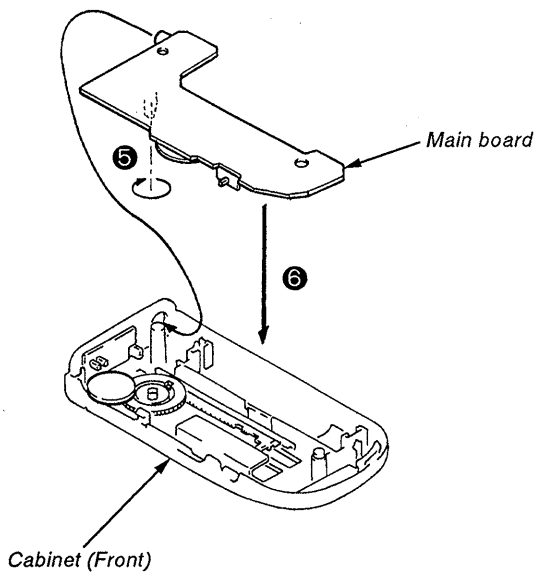
SECTION 2
DIAL POINTER INSTALLATION

Note : Follow the installation procedure in the numerical order given.

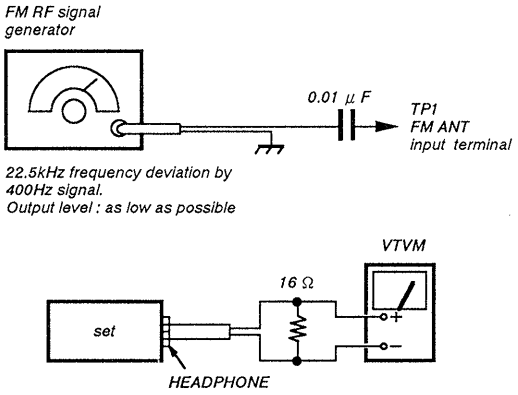
- Insert the pointer in the groove and slide it, and then align the " ○ " of the cabinet with the groove of the pointer.
- Align the Ⓐ of the tuning gear with the groove of the pointer.



- Turn the VC shaft as far as it will go in clockwise direction.



SECTION 3
ELECTRICAL ADJUSTMENTS



no mark: AEP, UK, E, AUS model
( ) : Italian model

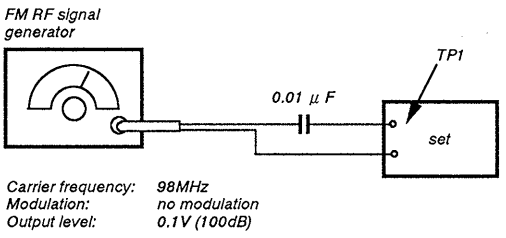
FM FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a maximum reading on VTVM.		
L4	86.5MHz	(87.35MHz)
CT2	109.5MHz	(108.25MHz)

FM TRACKING ADJUSTMENT		
Adjust for a maximum reading on VTVM.		
L1	86.5MHz	(87.35MHz)
CT1	109.5MHz	(108.25MHz)

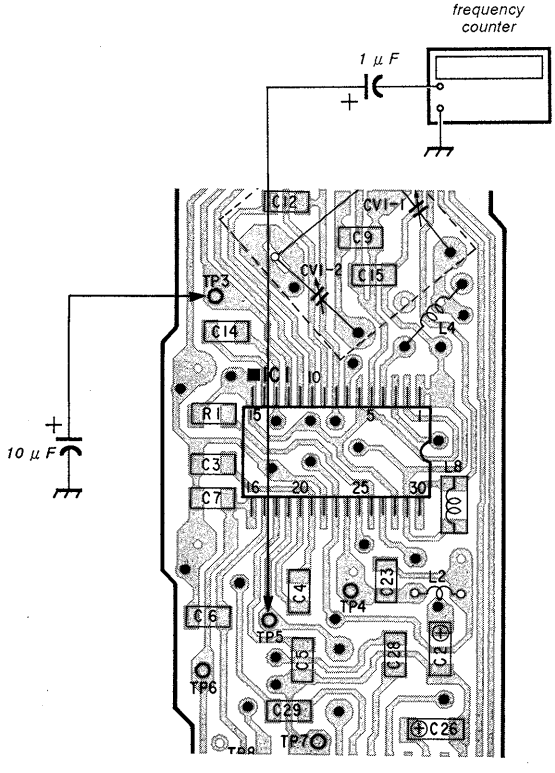
- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

VCO Adjustment

procedure :



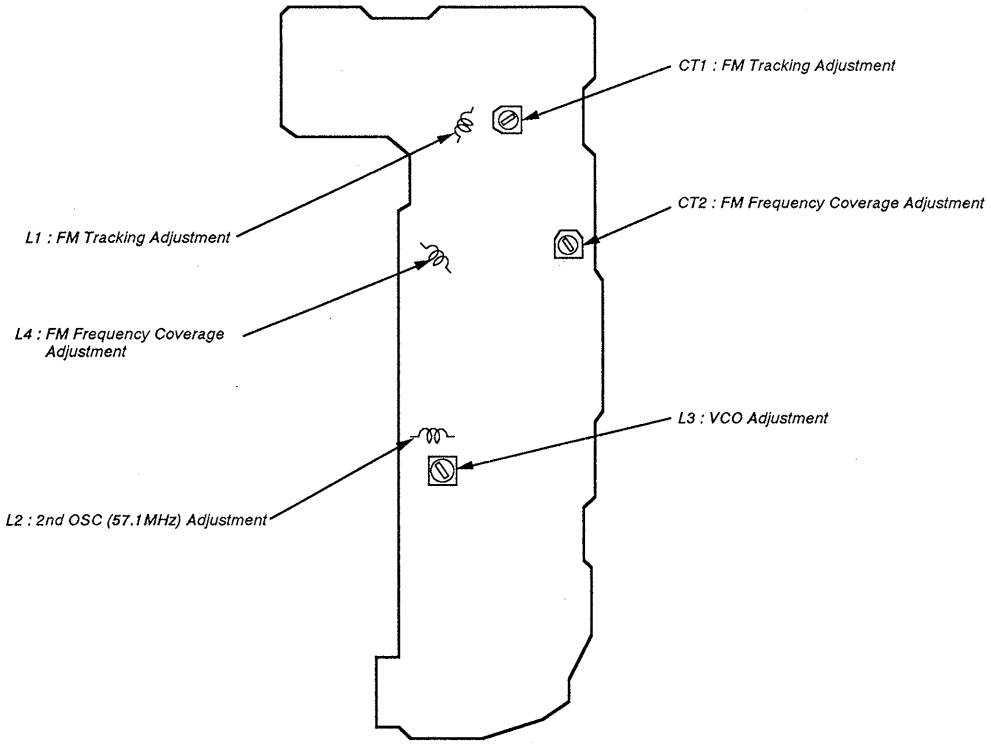
1. Connect the frequency counter to ⑲ pin of IC1 as shown the figure below.
2. Turn the set to 98MHz.
3. Adjust L3 for 38kHz ± 50Hz reading on frequency counter.



2nd OSC (57.1MHz) Adjustment

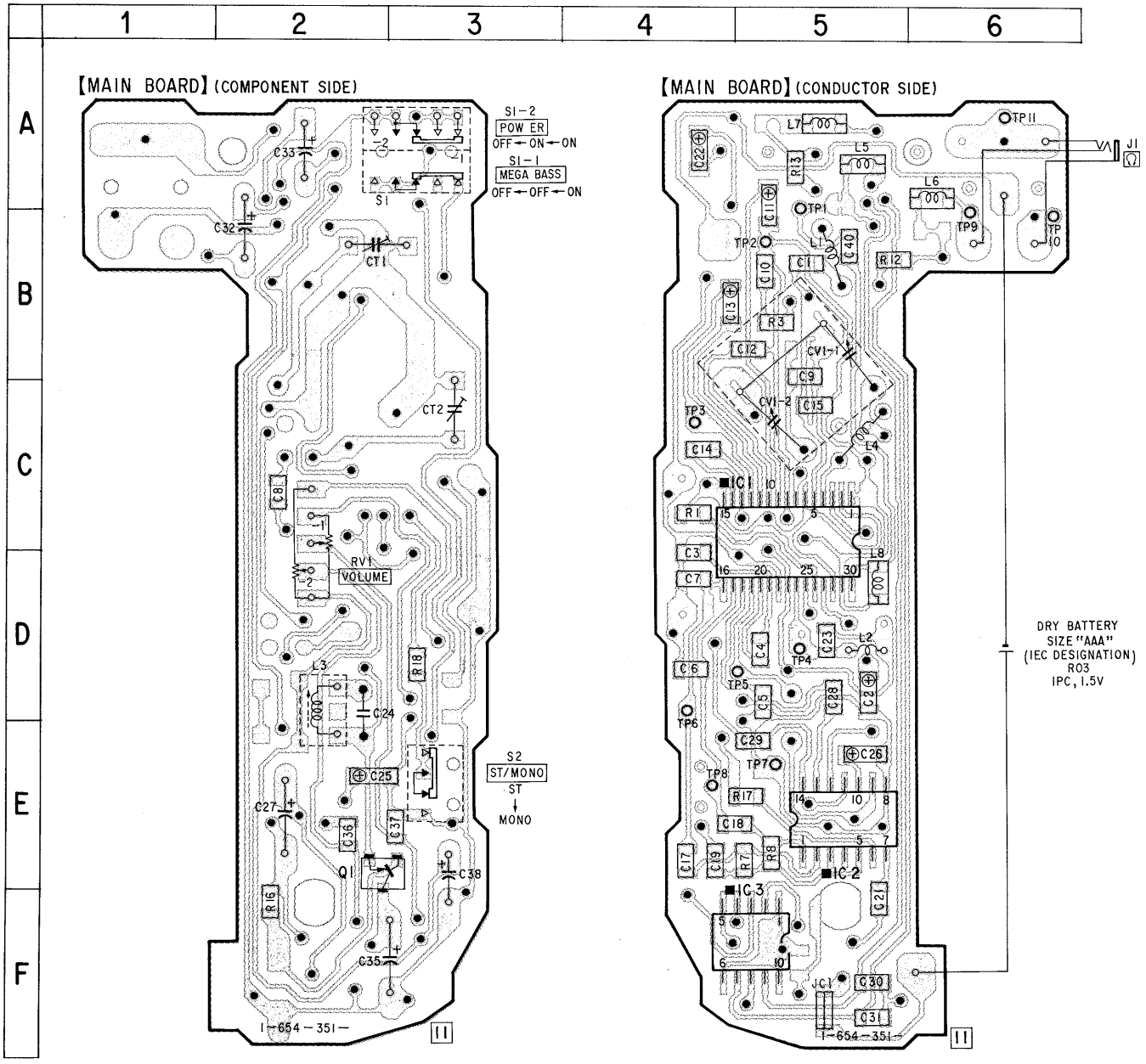
Adjust L2 for the reading of 57.1MHz ± 0.25MHz on the frequency counter.

Adjustment Location : Main board (Component side)


CT1 : FM Tracking Adjustment
CT2 : FM Frequency Coverage Adjustment
L1 : FM Tracking Adjustment
L4 : FM Frequency Coverage Adjustment
L3 : VCO Adjustment
L2 : 2nd OSC (57.1MHz) Adjustment

SECTION 4
DIAGRAMS

4-1. PRINTED WIRING BOARDS

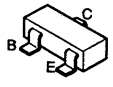


• SEMICONDUCTOR LOCATION

Ref. No.	Location
IC1	C - 5
IC2	E - 5
IC3	F - 5
Q1	E - 2

• SEMICONDUCTOR LEAD LAYOUTS

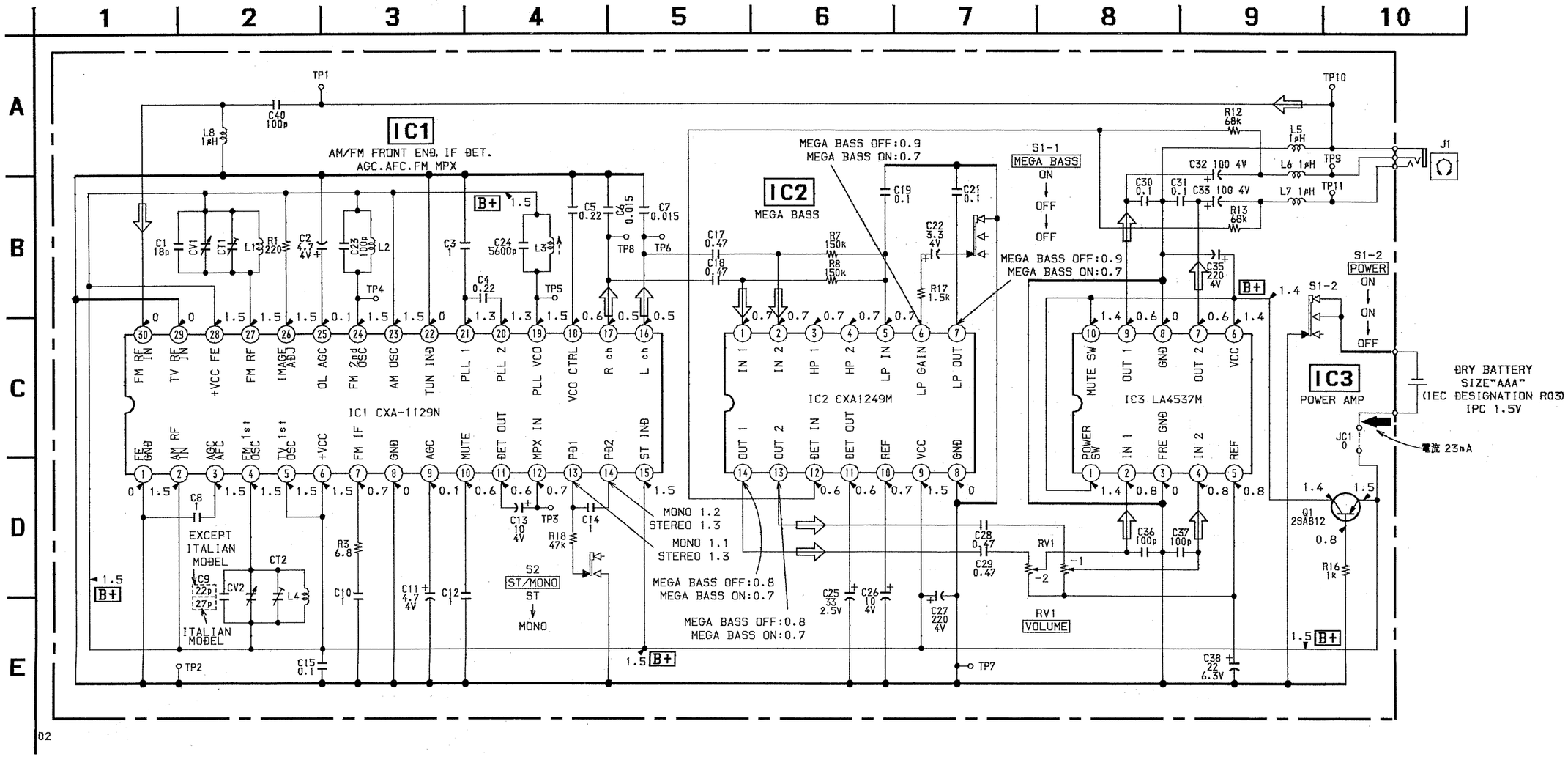
2SA1162-G



Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ▒ : Pattern on the side which is seen.
- □ : Chip components extracted from the rear side.

4-2. SCHEMATIC DIAGRAM

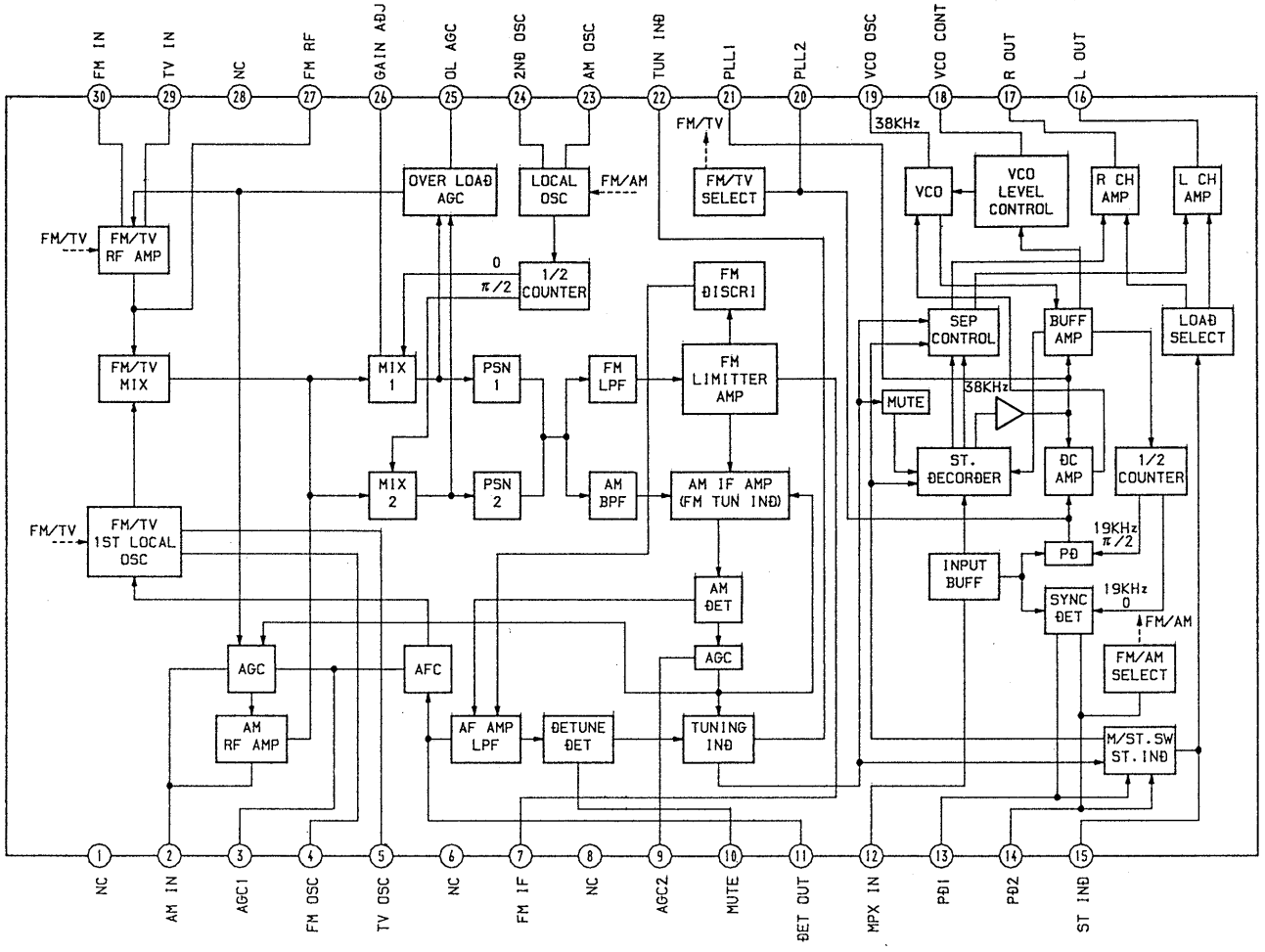


Note :

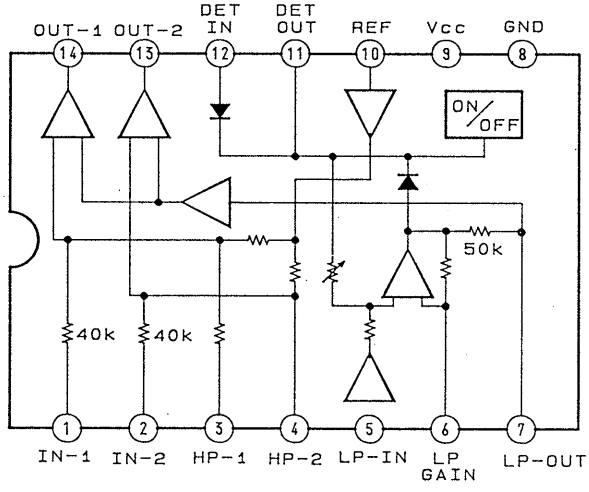
- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/10W or less unless otherwise specified.
- B+ : B+ Line
- Power voltage is dc1.5V and fed with regulated dc power supply from external power voltage jack.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

● IC BLOCK DIAGRAMS

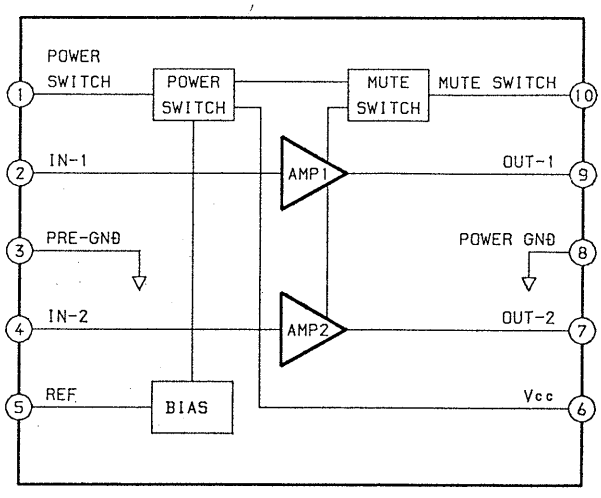
IC1 CXA1129N



IC2 CXA1249M



IC3 LA4537M

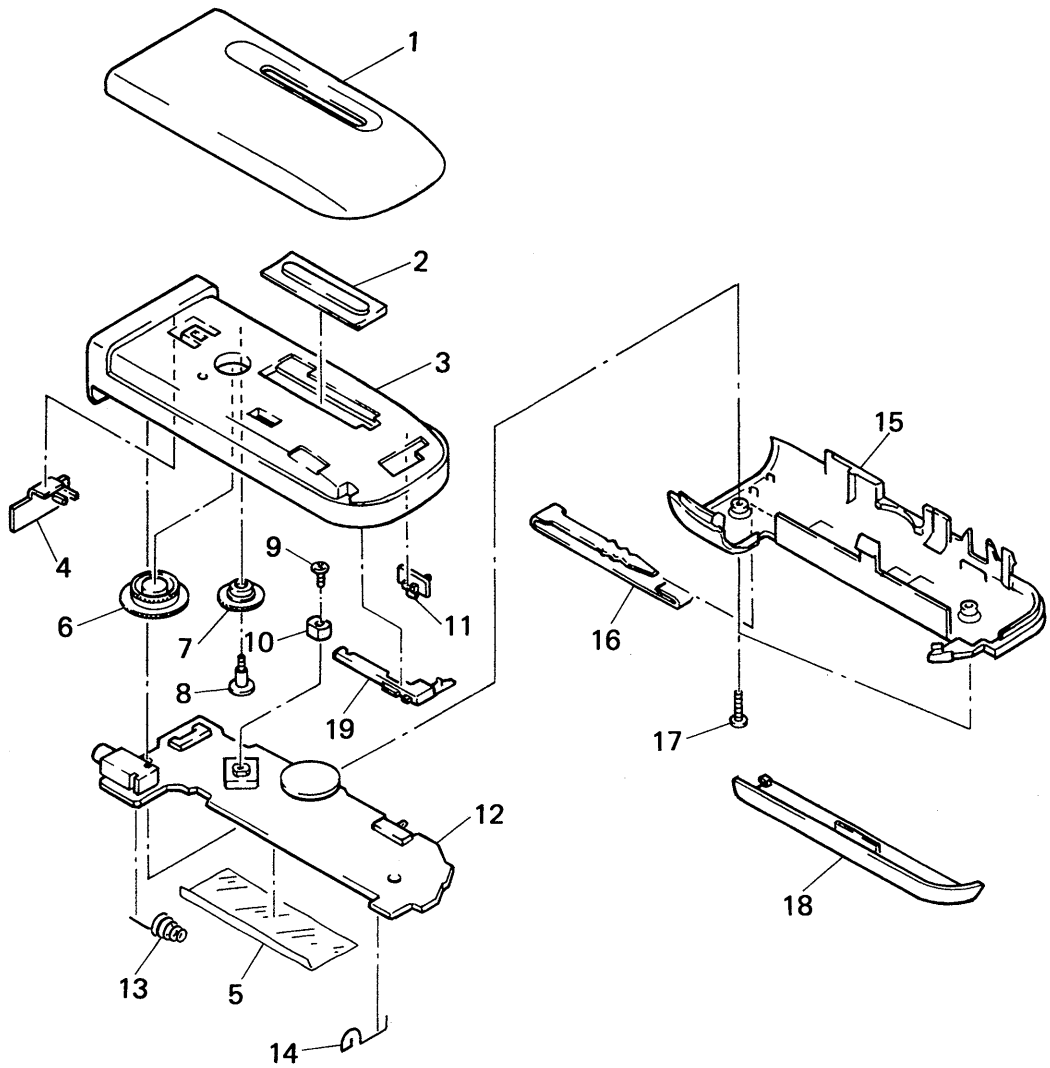


SECTION 5
EXPLODED VIEW

SEE ADDITIONAL INFORMATION

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  IT : Italian



Ref. No.	Part No.	Description	Remark
1	3-918-542-01	PANEL, FRONT	
2	3-918-540-01	PLATE, TRANSPARENT	
3	3-918-532-01	CABINET (FRONT)	
4	X-3369-626-1	KNOB (POWER) ASSY	
5	3-919-978-01	SEAL (PCB)	
6	3-918-539-01	GEAR (TUNING)	
7	3-918-538-01	KNOB (TUNING)	
8	3-895-517-01	SCREW (2), TAPPING, STEP	
9	3-703-816-41	SCREW (M1.4×2.5), SPECIAL HEAD	
10	3-918-541-01	ADAPTOR	
11	3-918-537-01	KNOB (ST)	

Ref. No.	Part No.	Description	Remark
* 12	A-3662-167-A	MAIN BOARD, COMPLETE (EXCEPT IT)	
* 12	A-3662-171-A	MAIN BOARD, COMPLETE (IT)	
13	3-918-545-01	TERMINAL (-), BATTERY	
14	3-918-544-01	TERMINAL (+), BATTERY	
15	3-918-533-01	CABINET (REAR)	
16	3-918-543-01	CLIP	
17	3-318-203-31	SCREW (B1.7×8), TAPPING	
18	3-918-534-01	LID, BATTERY CASE	
19	3-918-535-01	POINTER	

SECTION 6
ELECTRICAL PARTS LIST

MAIN

NOTE :
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μ A.... , uPA.... : μ PA....
  uPB.... : μ PB.... , uPC.... : μ PC....
  uPD.... : μ PD....
- CAPACITORS
  uF : μF
- COILS
  uH : μ H

When indicating parts by reference number, please include the board.

- Abbreviation
  IT : Italian

Ref. No.	Part No.	Description			Remark
*	A-3662-167-A	MAIN BOARD, COMPLETE (EXCEPT IT)			
*	A-3662-171-A	MAIN BOARD, COMPLETE (IT)			
		**********			
		< CAPACITOR >			
C1	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C2	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C3	1-164-346-11	CERAMIC CHIP	1uF		16V
C4	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C5	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C6	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C7	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C8	1-164-346-11	CERAMIC CHIP	1uF		16V
C9	1-163-235-11	CERAMIC CHIP	22PF	5%	50V (EXCEPT IT)
C9	1-163-103-11	CERAMIC CHIP	27PF	5%	50V (IT)
C10	1-164-346-11	CERAMIC CHIP	1uF		16V
C11	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C12	1-164-346-11	CERAMIC CHIP	1uF		16V
C13	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C14	1-164-346-11	CERAMIC CHIP	1uF		16V
C15	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C17	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C18	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C19	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C21	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C22	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C23	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C24	1-136-683-11	FILM	0.0056uF	5%	100V
C25	1-107-520-11	TANTAL. CHIP	33uF	20%	2.5V
C26	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C27	1-126-246-11	ELECT CHIP	220uF	20%	4V
C28	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C29	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C30	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C31	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C32	1-126-209-11	ELECT	100uF	20%	4V
C33	1-126-209-11	ELECT	100uF	20%	4V
C35	1-126-246-11	ELECT CHIP	220uF	20%	4V
C36	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C37	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C38	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C40	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
		< TRIMMER >			
CT1	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE)			
CT2	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE)			
		< VARIABLE CAPACITOR >			
CV1	1-21-141-521-11	CAP, VAR			
		< IC >			
IC1	8-752-061-76	IC CXA1129N-T4			
IC2	8-759-805-09	IC CXA1249M			
IC3	8-759-822-48	IC LA4537M			
		< JACK >			
J1	1-563-857-11	JACK, HEADPHONE (Ω)			
		< JUMPER RESISTOR >			
JC1	1-216-296-00	METAL CHIP	0	5%	1/8W
		< COIL >			
L1	1-409-989-11	COIL, AIR-CORE			
L2	1-409-991-11	COIL, AIR-CORE (EXCEPT IT)			
L2	1-411-130-11	COIL, AIR-CORE (IT)			
L3	1-409-971-21	COIL (VCO)			

MAIN

Ref. No.	Part No.	Description			Remark
L4	1-409-990-11	COIL, AIR-CORE (EXCEPT IT)			
L4	1-411-131-11	COIL, AIR-CORE (IT)			
L5	1-412-939-11	INDUCTOR	1uH		
L6	1-412-939-11	INDUCTOR	1uH		
L7	1-412-939-11	INDUCTOR	1uH		
L8	1-412-939-11	INDUCTOR	1uH		
		< TRANSISTOR >			
Q1	8-729-216-22	TRANSISTOR	2SA1162-G		
		< RESISTOR >			
R1	1-216-033-00	METAL CHIP	220	5%	1/10W
R3	1-216-311-00	METAL CHIP	6.8	5%	1/10W
R7	1-216-101-00	METAL CHIP	150K	5%	1/10W
R8	1-216-101-00	METAL CHIP	150K	5%	1/10W
R12	1-216-093-00	METAL CHIP	68K	5%	1/10W
R13	1-216-093-00	METAL CHIP	68K	5%	1/10W
R16	1-216-049-00	METAL CHIP	1K	5%	1/10W
R17	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R18	1-216-089-00	METAL CHIP	47K	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-223-634-11	RES, VAR, CARBON 10K/10K (VOLUME)			
		< SWITCH >			
S1	1-571-733-21	SWITCH, SLIDE (POWER/MEGABASS)			
S2	1-571-275-11	SWITCH, SLIDE (ST/MONO)			
**********					
		ACCESSORIES & PACKING MATERIALS			
		**********			
	1-504-738-11	HEADPHONE (TRH-15)			
	3-759-519-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH, DUTCH, ITALIAN, PORTUGUESS, CHINESE)			
*	3-918-995-01	INDIVIDUAL CARTON			
*	3-919-200-01	LABEL, C/C			

9-959-780-11

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Personal A&V Products Div.

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Quality Engineering Dept.

SRF-S50

SONY

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

SUPPLEMENT-1

File this supplement with the service manual.

Subject : Addition of the gray color panel. (E model only)

(ECN-TR600951)

Page	Former			New		
	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
10	1	3-918-542-01	PANEL, FRONT	1	3-918-542-01	PANEL, FRONT (GOLD)
				1	3-937-634-61	PANEL, FRONT (GRAY)

Sony Corporation
Personal & Mobile Communication Company

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SRF-S50

SONY

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

Ver 1.0 1998. 09

SUPPLEMENT-2

File this supplement with the service manual.

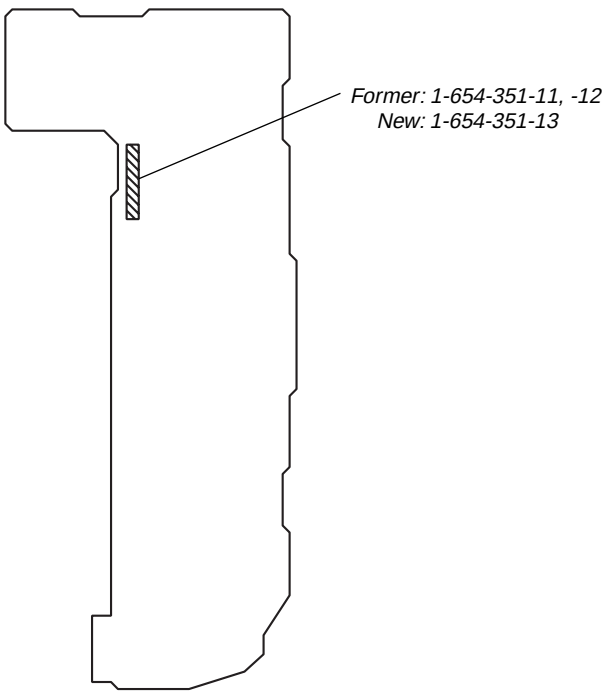
Subject:
1. Change of MAIN Board
2. French Model Addition

(ECN-TR800299)

1. Change of MAIN Board

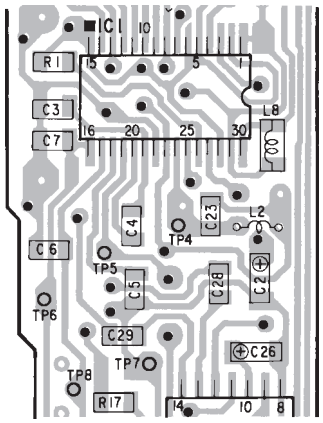
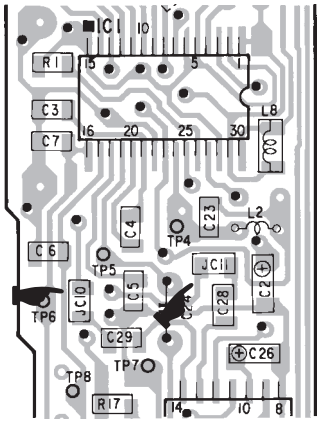
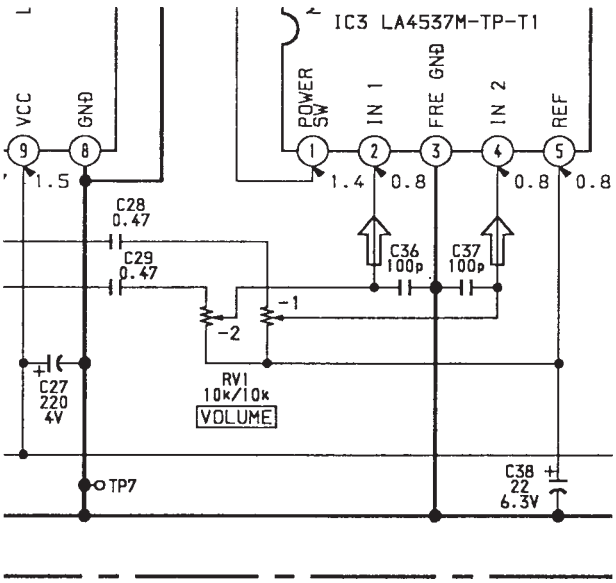
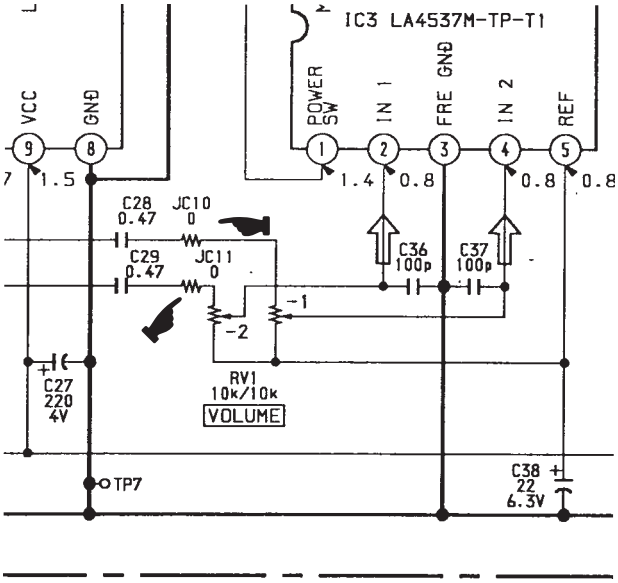
- **New/Former Discrimination**

[MAIN BOARD]
(COMPONENT SIDE)



• **Difference Table**

☛ **: Indicates changed portion.**

Page	Former Type	New Type
6	Location C-4 to E-6 	
8	Location C-7 to E-9 	

11	Ref. No.	Part No.	Description	Remark
	JC10	Not used		
	JC11	Not used		

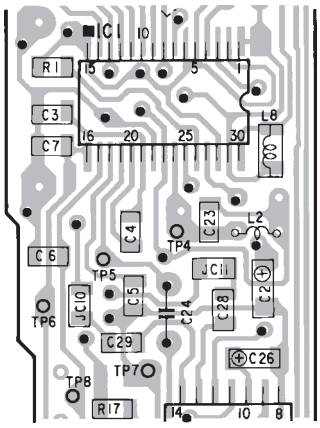
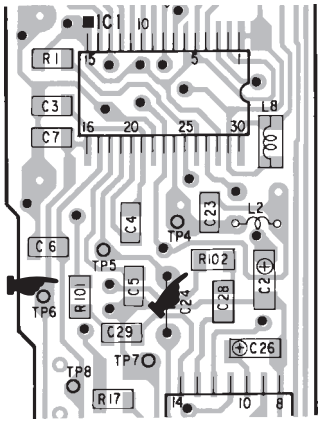
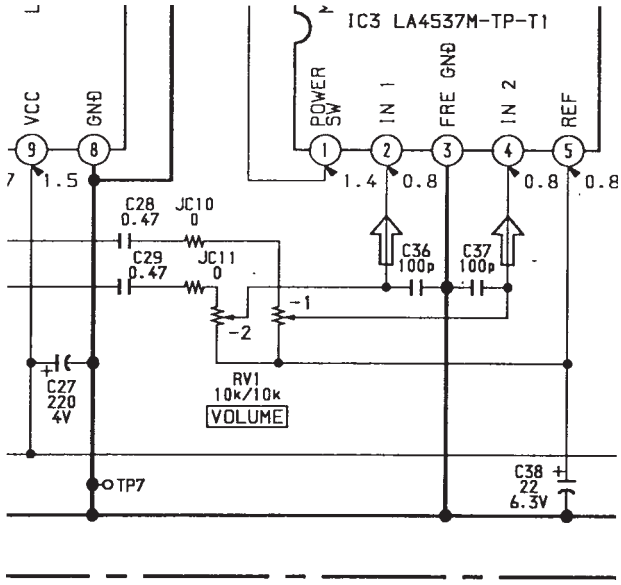
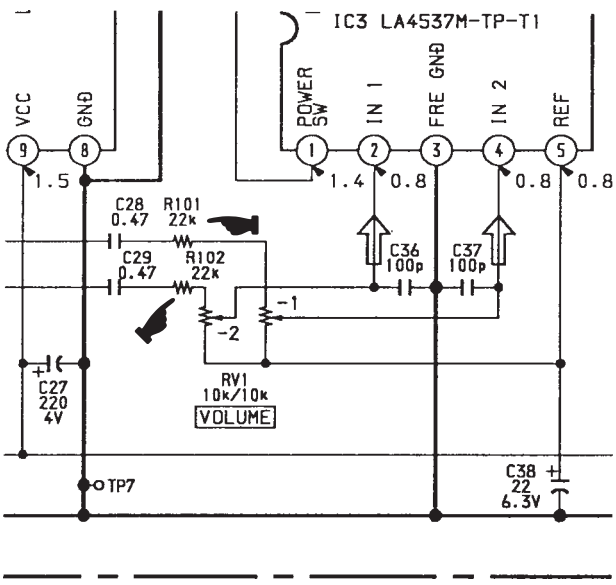
Ref. No.	Part No.	Description		Remark
JC10	1-216-295-00	SHORT	0	
JC11	1-216-295-00	SHORT	0	

2. French Model Addition

French model is almost the same as AEP model.
As only the difference from AEP model is described in this manual, please refer to SRF-S50 service manual (9-959-780-▯▯) previously issued for other information.

- **Difference Table**

☛ : Indicates different portion.

AEP Model	French Model
Location C-4 to E-6	
	
Location C-7 to E-9	
	

Ref. No.	Part No.	Description		Remark
JC10	1-216-295-00	SHORT	0	
JC11	1-216-295-00	SHORT	0	

Ref. No.	Part No.	Description			Remark
R101	1-216-081-00	METAL CHIP	22K	5% 1/10W	
R102	1-216-081-00	METAL CHIP	22K	5% 1/10W	

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